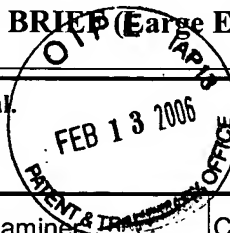


TRANSMITTAL OF APPEAL BRIEF (Large Entity)

Docket No.
L9289.02147

In Re Application Of: Katsuhiko HIRAMATSU, et al.



Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/088,650	March 20, 2002	U. Cho	52989	2687	2769

Invention: BASE STATION APPARATUS AND CHANNEL ASSIGNING METHOD

COMMISSIONER FOR PATENTS:

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December 13, 2005

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Dated: February 13, 2006

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Before the Board of Appeals and Interferences

In re the Application of

Inventors: Katsuhiko HIRAMATSU, et al.

Appln No.: 10/088,650

Filed: MARCH 20, 2002

For: BASE STATION APPARATUS AND CHANNEL ASSIGNING METHOD

APPEAL BRIEF

On Appeal From Group Art Unit 2687

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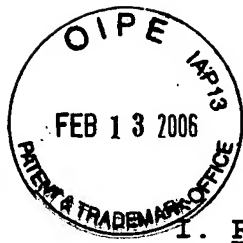


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I. REAL PARTY IN INTEREST

The real party in interest is the assignee of the present application, Matsushita Electric Industrial Co., Ltd., of Osaka Japan.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF CLAIMS

Claims 1-9 have been presented for examination. Claims 1-5 have been cancelled. Claims 6-9 are pending, stand finally rejected, and form the subject matter of the present appeal.

IV. STATUS OF AMENDMENTS

There was no amendment filed after the final rejection of June 13, 2005.

V. SUMMARY OF THE SUBJECT MATTER CLAIMED

An object of the claimed invention is to reduce interference in a multi-cell environment so as to enable reuse partitioning when open loop transmission power is employed on uplink channels. More specifically, the invention measures reception timing deviation of a received signal and determines the order in which communication slots are subjected to channel retrieval based on the measured reception timing deviation, so as to achieve the above-mentioned object.

Independent claim 6 defines a base station apparatus, as illustrated in Fig. 5 for an exemplary but non-limiting embodiment of the invention. The base station has a timing deviation measurer 313 that measures a reception timing deviation, which is the time delay of a direct wave's arrival time with respect to a slot start time determined from an internal clock (specification page 11, lines 12-15). A channel assigner 315 (1) refers to a table 314 (see Fig. 8) indicating a range of reception timing deviation assigned to each of a plurality of slots (see Fig. 7); (2) determines by reference to table 314 an order in which the slots are subjected to channel retrieval based on the measured reception timing deviation; and (3) carries out downlink channel assignment in the determined order in accordance with a downlink carrier-to-interference ratio (CIR) and uplink channel assignment in accordance with an uplink CIR (specification page 11, lines 18-24).

Claim 7 depends from claim 6 and recites that channel assigner 315 compares an uplink CIR and downlink CIR of a selected slot to a predetermined threshold value (specification page 15, lines 14-17, and page 11, lines 18-21). Based on the comparison, channel assigner 315: (1) assigns a call to the selected slot when the uplink CIR and downlink CIR of the selected slot are both greater than the predetermined threshold value (specification page 15, lines 18-20); (2) selects slots in sequence in a direction of less reception timing deviation when at least one of the uplink CIR and

downlink CIR of the selected slot is less than the predetermined threshold value (specification page 15, lines 20-24), and (3) selects slots in sequence in a direction of greater reception timing deviation when there is no slot of less reception timing deviation (specification page 15, line 24, through page 16, line 1). Thereafter, channel assignor 315 carries out the channel retrieval using the slots (specification page 16, lines 1-5).

Independent claim 8 defines a channel assigning method in an autonomous distributed dynamic channel assigning system, as illustrated in Fig. 9 for an exemplary but non-limiting embodiment of the invention. According to this method, a reception timing deviation of a received signal is measured ST602, the reception timing deviation being the time delay of a direct wave's arrival time with respect to a slot start time determined from an internal clock (specification page 15, lines 6-8). A table (see Fig. 8) indicating a range of reception timing deviation assigned to each of a plurality of slots (see Fig. 7) is referenced for use in determining ST603 an order in which the slots are subjected to channel retrieval based on the measured reception timing deviation (specification page 15, lines 9-11). Downlink channel assignment is carried out in the determined order in accordance with a downlink CIR, and uplink channel assignment is carried out in accordance with an uplink CIR (specification page 15, line 14, through page 16, line 8).

Claim 9 depends from method claim 8 and recites comparing ST604 an uplink CIR and downlink CIR of a selected slot to a predetermined threshold value (specification page 15, lines 14-16). A call is assigned to the selected slot when the uplink CIR and downlink CIR of the selected slot are both greater than the predetermined threshold value (specification page 15, lines 18-20). When at least one of the uplink CIR and downlink CIR of the selected slot is less than the predetermined threshold value, though, slots are selected in sequence in a direction of less reception timing deviation (specification page 15, lines 20-24). On the other hand, slots are selected in sequence in a direction of greater reception timing deviation when there is no slot of less reception timing deviation (specification page 15, line 24, through page 16, line 1). Thereafter, channel retrieval is carried out using the slots (specification page 16, lines 1-2).

The references above to the specification and drawings are for illustrative purposes only and are not intended to limit the scope of the invention to the referenced embodiments.

VI. ISSUES

Whether claims 6-9 stand correctly rejected under 35 U.S.C. §103(a) as unpatentable over Smith (US 5,642,355) in view of the Appellants' "Description of the Related Art."

VII. GROUPING OF CLAIMS

Claims 6-9 stand or fall separately.

VII. ARGUMENT

It is submitted that the features discussed below are not disclosed or suggested by the applied art whether considered alone or in combination.

A. Rejection of Claim 6

The base station defined by claim 6 aims to reduce interference in a multi-cell environment so as to enable reuse partitioning when open loop transmission power is employed on uplink channels. Smith teaches a method for solving the problem of a signal that cannot be accommodated in a time slot due to the fact that: (1) terminals in a cell have different distances to a base station and (2) placing the signal in the time slot would cause interference against other time slots. Therefore, Smith and the claimed invention are directed to different objects and employ different means.

To rely on a reference as a basis for rejecting an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the invention is concerned. See, *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992); and MPEP §2141.01(a)(I), first paragraph. The Appellants

respectfully submit that Smith is neither in the field of their endeavor nor reasonably pertinent to the particular problem with which the invention is concerned. Therefore, allowance of claim 6 and its dependent claim are warranted.

Moreover, a feature of claim 6 is to measure reception timing deviation and to determine the order in which slots are subjected to channel retrieval based on reception timing deviation, so as to achieve the above-mentioned object. Smith does not disclose measuring reception timing deviation, as defined by claim 6, because the object of Smith is different from the present invention.

The Final Rejection proposes that Smith describes measuring reception timing in column 5, lines 11-31 (see Final Rejection section 3, lines 3-8). However, the Appellants respectfully submit that Smith does not disclose or suggest measuring reception timing deviation. The Final Rejection further proposes that Smith discloses a method for assigning slots based on reception timing in column 6, line 48, through column 7, line 20 (see Final Rejection section 3, lines 8-12). However, the Appellants respectfully submit that Smith does not disclose or suggest determining the order in which slots are subjected to channel retrieval based on reception timing deviation.

The Final Rejection does not propose that the Appellants' Description of the Related Art cures or supplements the teachings

of Smith with regard to the above-described features distinguishing claim 6 from Smith.

Accordingly, the Appellants respectfully submit that the combined teachings of Smith and the Appellants' Description of the Related Art do not teach or suggest all of the claimed features. As a result, the applied art cannot render obvious the base station defined by claim 6. Therefore, allowance of claim 6 and all claims dependent therefrom is warranted.

B. Rejection of Claim 7

Claim 7 further limits the scope of the base station defined by claim 6 with a channel assigner that: (1) selects slots in sequence in a direction of less reception timing deviation when at least one of the uplink CIR and downlink CIR of the selected slot is less than a predetermined threshold value and (2) selects slots in sequence in a direction of greater reception timing deviation when there is no slot of less reception timing deviation. While acknowledging that Smith does not disclose these features, the Final Rejection proposes that the Appellants' Description of the Related Art teaches them on page 3, lines 2-24 (see Final Rejection, paragraph bridging pages 3 and 4).

By contrast to the proposed disclosure, however, the Appellants' Description of the Related Art states that when either the uplink CIR or the downlink CIR is not larger than a threshold value, at ST57, the base station apparatus decides whether any

empty channel which has not been subjected to channel retrieval resides therein or not (ADRA page 3, lines 13-18). When any un-retrieved channel is left, at ST58, after excluding channels which have been subjected to channel retrieval, the base station apparatus and the mobile station apparatus repeat the processing after ST53 (see, application page 3, lines 19-22). On the other hand, when no un-retrieved channel is left, the base station apparatus terminates the processing as a call loss at ST59 (see, application page 3, lines 22-24).

As may be determined by examination of the above paraphrased portion, the Appellants' Description of the Related Art does not teach or suggest, as proposed in the Final Rejection, the features of: (1) selecting slots in sequence in a direction of less reception timing deviation or (2) selecting slots in sequence in a direction of greater reception timing deviation. Moreover, the Appellants' Description of the Related Art does not teach or suggest the two methods of slot selection in accordance with the claimed conditions relating to the uplink and downlink CIRs and the availability of slots having less reception timing deviation.

Accordingly, the Appellants respectfully submit that the combined teachings of Smith and the ADRA do not teach or suggest all of the claimed features. As a result, the applied art cannot render obvious the base station defined by claim 7. Therefore, allowance of claim 7 is warranted for this independent reason.

C. Rejection of Claim 8

The method defined by claim 8 aims to reduce interference in a multi-cell environment so as to enable reuse partitioning when open loop transmission power is employed on uplink channels. Smith teaches a method for solving the problem of a signal that cannot be accommodated in a time slot due to the fact that: (1) terminals in a cell have different distances to a base station and (2) placing the signal in the time slot would cause interference against other time slots. Therefore, Smith and the claimed invention are directed to different objects and employ different techniques.

To rely on a reference as a basis for rejecting an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the invention is concerned. See, *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992); and MPEP §2141.01(a)(I), first paragraph. The Appellants respectfully submit that Smith is neither in the field of their endeavor nor reasonably pertinent to the particular problem with which the invention is concerned. Therefore, allowance of claim 8 and its dependent claim are warranted.

Moreover, a feature of the claimed invention is to measure reception timing deviation and to determine the order in which slots are subjected to channel retrieval based on reception timing deviation, so as to achieve the above-mentioned object. Smith does

not disclose measuring reception timing deviation, as defined by claim 8, because the object of Smith is different from the present invention.

The Final Rejection proposes that Smith describes measuring reception timing in column 5, lines 11-31 (see Final Rejection section 3, lines 3-8, as made relevant by page 4, second paragraph). However, Smith does not disclose measuring reception timing deviation. The Final Rejection further proposes that Smith discloses a method for assigning slots based on reception timing in column 6, line 48, through column 7, line 20 (see Final Rejection section 3, lines 8-12, as made relevant by page 4, second paragraph). However, Smith does not disclose or suggest determining the order in which slots are subjected to channel retrieval based on reception timing deviation.

The Final Rejection does not propose that the Appellants' Description of the Related Art cures or supplements the teachings of Smith with regard to the above-described features distinguishing claim 8 from Smith.

Accordingly, the Appellants respectfully submit that the combined teachings of Smith and the Appellants' Description of the Related Art do not teach or suggest all of the claimed features. As a result, the applied references cannot render obvious the method defined by claim 8. Therefore, allowance of claim 8 and all claims dependent therefrom is warranted.

D. Rejection of Claim 9

Claim 9 further limits the scope of the method defined by claim 8 with the features of: (1) selecting slots in sequence in a direction of less reception timing deviation when at least one of the uplink CIR and downlink CIR of the selected slot is less than the predetermined threshold value and (2) selecting slots in sequence in a direction of greater reception timing deviation when there is no slot of less reception timing deviation. While acknowledging that Smith does not disclose these features, the Final Rejection proposes that the Appellants' Description of the Related Art teaches them on page 3, lines 2-24 (see Final Rejection, paragraph bridging pages 3 and 4, as made relevant by page 4, third paragraph).

By contrast to the proposed disclosure, the Appellants' Description of the Related Art states that when either the uplink CIR or the downlink CIR is not larger than a threshold value, at ST57, the base station apparatus decides whether any empty channel which has not been subjected to channel retrieval resides therein or not (see, application page 3, lines 13-18). When any un-retrieved channel is left, at ST58, after excluding channels which have been subjected to channel retrieval, the base station apparatus and the mobile station apparatus repeat the processing after ST53 (see, application page 3, lines 19-22). On the other hand, when no un-retrieved channel is left, the base station

apparatus terminates the processing as a call loss at ST59 (see, application page 3, lines 22-24).

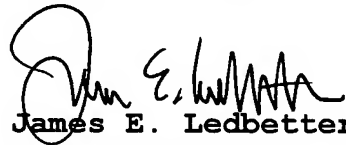
As may be determined by examination of the paraphrased portion, the Appellants' Description of the Related Art does not teach or suggest, as proposed in the Final Rejection, the features of: (1) selecting slots in sequence in a direction of less reception timing deviation or (2) selecting slots in sequence in a direction of greater reception timing deviation. Moreover, the Appellants' Description of the Related Art does not teach or suggest the two methods of slot selection in accordance with the claimed conditions relating to the uplink and downlink CIRs and the availability of slots having less reception timing deviation.

Accordingly, the Appellants respectfully submit that the combined teachings of Smith and the ADRA do not teach or suggest all of the claimed features. As a result, the applied references cannot render obvious the method defined by claim 9. Therefore, allowance of claim 9 is warranted for this independent reason.

VIII. CONCLUSION

In view of the law and facts stated herein, it is respectfully submitted that all pending claims define patentable subject matter. Therefore, reversal of all outstanding grounds of rejections is warranted.

Respectfully submitted,



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Date: February 13, 2006

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IX. APPENDIX: THE CLAIMS ON APPEAL

6. A base station apparatus comprising:

a timing deviation measurer that measures a reception timing deviation, said reception timing deviation being a time delay of an arrival time of a direct wave with respect to a slot start time, which is based on an internal clock; and

a channel assigner that: (1) refers to a table indicating a range of reception timing deviation assigned to each of a plurality of slots, (2) determines, by reference to the table, an order in which the slots are subjected to channel retrieval based on the measured reception timing deviation, and (3) carries out downlink channel assignment in the determined order in accordance with a downlink CIR and uplink channel assignment in accordance with an uplink CIR.

7. The apparatus of claim 6, wherein the channel assigner:

compares an uplink CIR and downlink CIR of a selected slot to a predetermined threshold value;

assigns a call to the selected slot when the uplink CIR and downlink CIR of the selected slot are both greater than the predetermined threshold value;

selects slots in sequence in a direction of less reception

timing deviation when at least one of the uplink CIR and downlink CIR of the selected slot is less than the predetermined threshold value and in a direction of greater reception timing deviation when there is no slot of less reception timing deviation; and
carries out the channel retrieval using the slots.

8. A channel assigning method in an autonomous distributed dynamic channel assigning system, the method comprising:

measuring a reception timing deviation, said reception timing deviation being a time delay of an arrival time of a direct wave with respect to a slot start time, which is based on an internal clock;

referring to a table indicating a range of reception timing deviation assigned to each of a plurality of slots;

determining, by reference to the table, an order in which the slots are subjected to channel retrieval based on the measured reception timing deviation; and

carrying out downlink channel assignment in the determined order in accordance with a downlink CIR and uplink channel assignment in accordance with an uplink CIR.

9. The method of claim 8, further comprising:

comparing an uplink CIR and downlink CIR of a selected slot to

a predetermined threshold value;

assigning a call to the selected slot when the uplink CIR and downlink CIR of the selected slot are both greater than the predetermined threshold value;

selecting slots in sequence in a direction of less reception timing deviation when at least one of the uplink CIR and downlink CIR of the selected slot is less than the predetermined threshold value and in a direction of greater reception timing deviation when there is no slot of less reception timing deviation; and

carrying out the channel retrieval using the slots.